

REMARKS

In the foregoing amendment, claims 1-6 are amended and claims 7-13 added. Now pending in the application is claims 1-13, of which claim 1 is independent.

I. Claim Amendments

Applicants thank the Examiner for the courtesy of the telephone conference with the Applicants' Attorney on February 8, 2007. During the telephone conference, the Examiner recommended amending the claims to define the structural aspects of the reservoir. Applicants amend claims 1-6 to clarify the structure of the reservoir.

For example, claim 1 is amended to add a feature that "the reservoir has one or more walls" and "the hydrogen gas inlet is formed in the wall of the reservoir." Claim 1 is also amended to include "a cathode exhaust gas pipe penetrating through the wall of the reservoir at a first location to form an exhaust gas inlet and penetrating through the wall at a second location to form an exhaust gas outlet, wherein the cathode exhaust gas pipe has holes formed therein that communicate with an inside of the reservoir, wherein the cathode exhaust gas pipe is adapted to carry cathode exhaust gas generated by the fuel cell."

Support for the claim amendment can be found in the figures, for example, Figures 3-5 and 8-9 and corresponding descriptions in the specification of the present application. No new matter is added.

II. Rejection of Claims 1-6 under 35 U.S.C. §103

Claims 1-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0142200 ("Formanski") in view of U.S. Patent No. 6,237,336 ("Feucht"). Applicants respectfully traverse the rejection.

A. Claim 1

Applicants submit that the combination of Formanski and Feucht does not teach or suggest "a cathode exhaust gas pipe penetrating through the wall of the reservoir at a first

location to form an exhaust gas inlet and penetrating through the wall at a second location to form an exhaust gas outlet, wherein the cathode exhaust gas pipe has holes formed therein that communicate with an inside of the reservoir, wherein the cathode exhaust gas pipe is adapted to carry cathode exhaust gas generated by the fuel cell,” as required by claim 1.

The Examiner recognizes in the Office Action that “Formanski et al. fail to teach any structure regarding the mixing device.” See the Office Action, page 2. The Examiner cites Feucht to compensate for the deficiencies of the Formanski reference.

Feucht teaches a cylindrical body (52) having two parallel inlets (42, 46) for receiving combustion air and exhaust gas, respectively. Feucht also teaches that the cylindrical body (52) includes an outlet (50) for providing the mixture of combustion air and exhaust gas to the internal combustion engine.

Feucht, however, does not teach “a cathode exhaust gas pipe penetrating through the wall of the reservoir at a first location to form an exhaust gas inlet and penetrating through the wall at a second location to form an exhaust gas outlet, wherein the cathode exhaust gas pipe has holes formed therein that communicate with an inside of the reservoir,” as required in claim 1. In Feucht, the second inlet (46) extends into the cylindrical body (52) to inject the exhaust gas into the chamber of the cylindrical body (52). Feucht does not teach “a cathode exhaust gas pipe penetrating through the wall of the reservoir at a first location to form an exhaust gas inlet and penetrating through the wall at a second location to form an exhaust gas outlet,” as required in claim 1.

In light of the foregoing arguments, Applicants submit that the combination of Formanski and Feucht does not teach or suggest all of the features of claim 1. Applicants therefore request withdrawal of the rejection of claim 1 under 35 U.S.C. §103(a).

B. Claims 2-6

Claims 2-6 depend from claim 1 and, as such, incorporate the patentable feature of claim 1. Applicants therefore submit that claims 2-6 are not rendered obvious over the references. Applicants request withdrawal of the rejection of claims 2-6 under 35 U.S.C. §103(a).

Additionally, Applicants submit that the combination of Formanski and Feucht does not teach or suggest that “the cathode exhaust gas pipe has an intermediate portion that is bent to form a bent intermediate portion between the exhaust gas inlet and the exhaust gas outlet, and wherein at least a portion of the holes are formed in the bent intermediate portion of cathode exhaust gas pipe,” as required in claim 3.

The Examiner alleges that “it can be seen in Figure 3 of Feucht at al. that the pipe included in the mixing chamber has a bent portion.” See the Office Action, page 3. In Feucht, the pipe is extended into and bent in the chamber of the cylindrical body (52). Feucht, however, does not teach “an intermediate portion that is bent to form a bent intermediate portion between the exhaust gas inlet and the exhaust gas outlet,” as required in claim 3.

In light of the foregoing arguments, Applicants request withdrawal of the rejection of claims 2-6 under 35 U.S.C. §103(a).

III. New Claims 7-13

Applicants add new dependent claims 7-13 to depend from claim 1. Claims 7-13 further clarify structural aspects of the reservoir or the cathode exhaust gas pipe recited in claim 1.

Claim 7 adds a feature that “the reservoir comprises a box-like housing having a plurality of walls,” and “the cathode exhaust gas pipe penetrates a first wall of the plurality of walls at one end of the housing to form the exhaust gas inlet, and penetrates an opposed wall at the opposite end of the housing to form the exhaust gas outlet.” Support for the new claim can be found in Figures 3-9 and corresponding descriptions in the specification of the present application.

Claim 8 adds a feature that “the box-like housing has a substantially rectangular shape.” Support for the new claim can be found in Figures 3-7 and corresponding descriptions in the specification of the present application.

Claim 9 adds a feature that “one wall of the plurality of walls of the box-like housing comprises a plurality of linear interconnecting wall portions.” Support for the new claim can be found in Figures 8-9 and corresponding descriptions in the specification of the present application.

Claim 10 adds a feature that “the exhaust gas inlet and the exhaust gas outlet are formed, in one orientation, at the same vertical position so as to allow the cathode exhaust gas pipe to pass horizontally through the reservoir.” Support for the new claim can be found in Figures 3-5 and corresponding descriptions in the specification of the present application.

Claim 11 adds a feature that “the exhaust gas inlet and the exhaust gas outlet are formed, in one orientation, at a lower portion of the reservoir and the hydrogen gas inlet is disposed at an upper portion of the reservoir.” Support for the new claim can be found in Figures 3-9 and corresponding descriptions in the specification of the present application.

Claim 12 adds a feature that “at least a portion of the holes are formed in a non-bent portion of the cathode exhaust gas pipe.” Support for the new claim can be found in Figures 6 and 8-9 and corresponding descriptions in the specification of the present application.

Claim 13 adds a feature that “the hydrogen gas inlet and the exhaust gas inlet are formed in the same wall of the reservoir.” Support for the new claim can be found in Figures 3-5 and corresponding descriptions in the specification of the present application.


In light of the arguments set forth above in section II, Applicants submit that the new claims are patentably distinct over the combination of Formanski and Feucht.

IV. Conclusion

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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